DOCUMENT RESUME

ED 272 335 RC 015 829

AUTHOR	Weber, Bruce A.; And Others
TITLE	Understanding Your Local Economy: Economic Base Analysis and Local Development Strategies. Community Economics.
INSTITUTION	Oregon State Univ., Corvallis. Cooperative Extension Service.; Western Rural Development Center, Corvallis, Oreg.
SPONS AGENCY	Extension Service (DOA), Washington, D.C.
REPORT NO	WRDC-29
PUB DATE	Jan 86
NOTE	13p.
AVAILABLE FROM	Western Rural Development Center, Oregon State University, Corvallis, OR 97331 ($1.00).
PUB TYPE	Guides - Non-Classroom Use (055)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Change Strategies; *Community Planning; *Economic Development; Employment; Financial Policy; Income; *Local Issues; *Policy Formation; *Rural Areas; Rural Economics
IDENTIFIERS	Oregon (Baker County); United States (West)

ABSTRACT

Community decision makers selecting an economic development strategy most appropriate for their local community must begin with an understanding of how their local economy functions, what its economic base is, and how changes in that base may affect local economic structure and performance. The economic base approach emphasizes the roles of exports and imports in generating local income and employment. Export promotion is a traditional strategy to stimulate more economic activity by enlarging the flow of income into the community. Import substitution is a strategy to decrease the leakage of income out of the community. Both the export promotion and import substitution objectives can be accomplished by attracting new firms as well as by retaining or expanding existing firms. Furthermore, the increasing importance of investment income and transfer payments as a major external source of earnings flowing into the community should not be overlooked in local economic development planning. This paper explains the process of local employment and income generation, illustrates several simple techniques for estimating the local economic base, and suggests how information on economic structure can be used to help select more promising economic development strategies. One Pacific Northwest regional economy--Baker County, Oregon--is used as an example. (JHZ)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED272335

COMMUNITY ECONOMICS

January 1986

WRDC 29

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

X Minor changes have been made to improve reproduction quality.

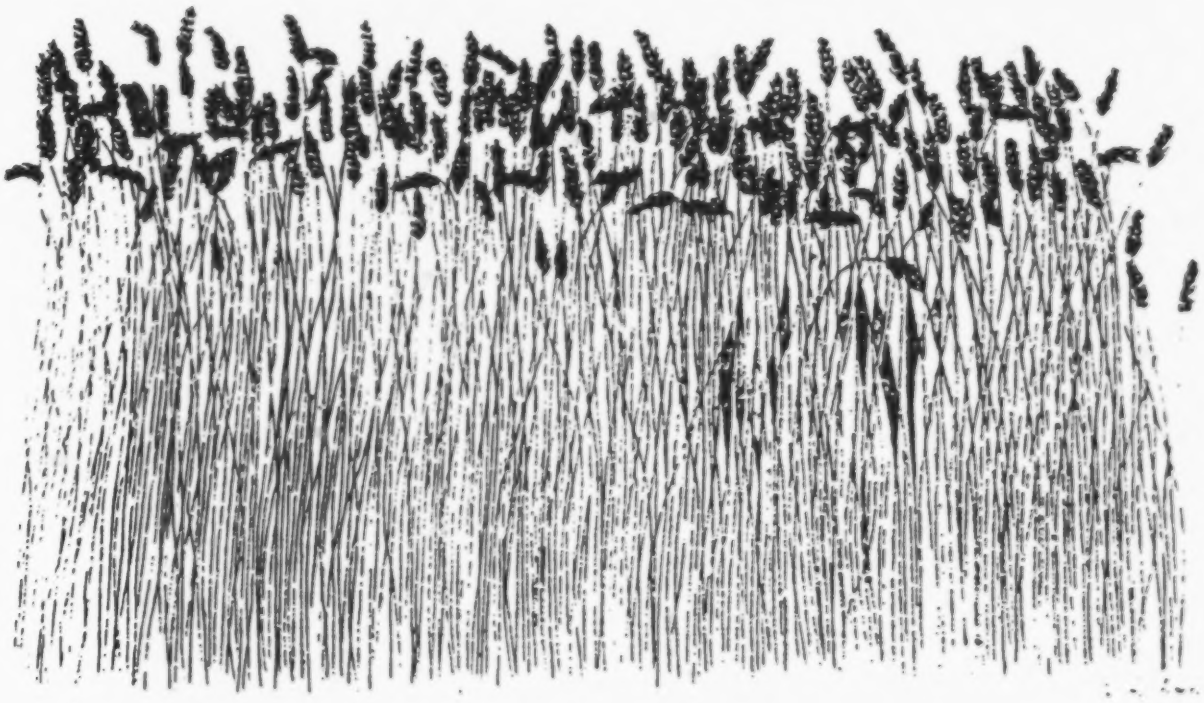
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Barbara Baldwin

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

RECEIVED
MAR 1986
ERIC/CRESS



Understanding Your Local Economy

Economic Base Analysis and Local Development Strategies

RC 015829

BEST COPY AVAILABLE

Why Analyze Your Local Economy?

In recent years, several forces have combined to create a broad range of development problems and concerns in the rural, or nonmetropolitan, West. On the one hand, industry and population from other regions have been attracted to the West so that the overall population growth rate in that area was twice the national average between 1970 and 1980. Nonmetropolitan counties in the western United States grew 32 percent from 1970 to 1980, a rate that was three times the national average and twice the rate of growth for all nonmetropolitan counties.

Another feature of western rural economies which has brought rapid growth to previously isolated, sparsely populated areas is large scale mineral and energy development. At present, many communities are suffering the "boom and bust" cycle which characterizes such fast-growth economies.

On the other hand, while growth has been a dominant factor in much of the West, it is not universal. Many agriculturally-based areas continue to experience adjustment problems as a result of farm consolidation and emigration. Furthermore, communities heavily dependent on a single economic resource (such as timber or minerals) are greatly affected by national and international economic conditions. The early 1980's have provided a vivid reminder of this, with such economic conditions generating high unemployment and a generally depressed economy.

The combination of overall rapid economic growth, boom and bust, and severe economic downturn in industries which historically have been the region's economic mainstay, has generated renewed interest in economic development among policy makers at all levels of government. In their search for clean, light industry—ranging from high-tech to tourism—communities are initiating a variety of approaches to economic development, including ideas copied from other communities.

To select the most appropriate economic development strategy for a community, the decision makers and community leaders must begin with an understanding of how their local economy functions, what its economic base is, and how changes in that base may affect local economic structure and performance. This publication is for people concerned about economic development who wish to learn more about their local economy. It explains the process of local employment and income generation, illustrates several simple techniques for estimating the local economic base, and suggests how information on economic structure can be used to help select more promising economic development strategies. Readers wishing to obtain "how to" guidelines for conducting or implementing an economic base study are directed to reference numbers 1, 2, 4 and 13 at the end of this report.

Prepared by:
Bruce A. Weber
Extension Economist, Oregon State University
Stephen M. Smith
Associate Professor, Department of Agricultural Economics University of Idaho,
Ronald C. Faas,
Extension Economist, Washington State University, and
Gary W. Smith
Extension Economist, Washington State University

The Economic Base Approach: How are Local Incomes and Employment Generated?

Changes in employment and income in a local economy are caused by many factors. Economic base theory is one approach used by many regional economists to explain growth or decline in the local economy. By understanding the economic base of a particular local economy, one can appreciate which sectors "drive" the economy; i.e., those which determine the total income and employment size of a community. It can then be anticipated which of these might be vulnerable to decline, and sectors with more potential for growth can be identified.

In a totally self-contained and closed economy, everything required by the community or region is produced and consumed within its boundaries. While this description may have fit a few isolated pioneer communities, most local economies today are more nearly the opposite. They are open economies purchasing, or importing, a great proportion of their needs from outside the community. In order to make those purchases, money must be earned through exports, or the sale of goods and services outside the community's boundaries. Not all export earnings, however, are immediately spent on imports. Certain goods and services are produced locally, and export earnings are also spent on these. Thus, larger export earnings may lead to larger local expenditure and expansion of the local economy.

Figure 1 summarizes this process. As exports, local products and services flow out of the community to satisfy an external demand (A). To produce the exports that satisfy this demand, jobs have been created locally which generate a flow of income (B) into the local community. This income is used in various ways. One use is to purchase goods and services (C) from outside the local economy (imports). Income (D) "leaks" out of the community to pay for these imports. A second major use is to purchase goods and services locally (E). This local circulation of money generates additional local employment and income. Not all of the income which is spent locally remains in the community, however. Local business and industry also require goods and services that are not available locally, and these purchases add to the leakage of income.

The investment of savings and payment of taxes are other uses for income. Some stays in the local economy, but much leaves the community. With the dollars that leave the economy through savings and taxes, the community is, in a sense, paying for imported financial and government services and expected future income. Thus, for every dollar generated by exports, part circulates in the local economy and part leaks out.

This flow process, illustrated in Figure 1, determines the level of local income and employment. The level of economic activity will remain unchanged unless something changes either the level of exports (A) (which changes the dollar flow into the local economy [B]), or the proportion of export earnings leaked out of the economy (D) to purchase imports (C). The level of local income and employment can be increased in this process either by increasing the level of exports (A) or increasing the share of export income spent locally (E).

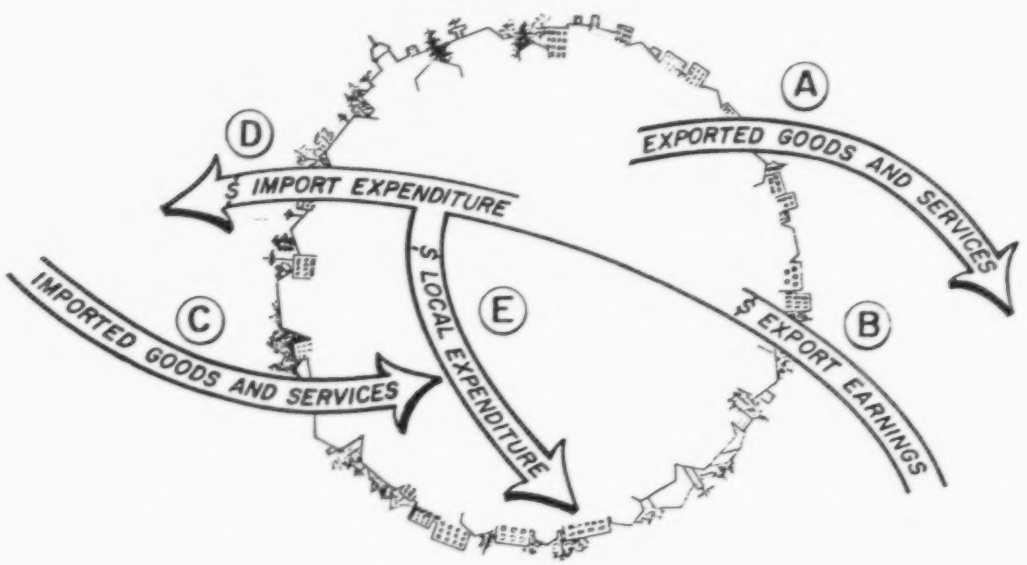


Figure 1. Process of Local Income and Employment Generation

According to the economic base approach, external demand is the driving force behind the process of local income and employment generation in the short run. External demand determines the level of goods and services produced by a community for export. Private sector sources of external demand generally have a direct effect on agriculture, forestry, mining, manufacturing, and tourism, since much of the product of these sectors is produced for export. The public sources of external demand are primarily federal and state government expenditures.

The export base approach does not overlook the role and importance of local demand for locally produced goods and services. However, local demand for local output is not really determined locally, at least in the short-run. Rather it is determined indirectly by the level of employment and income generated for producing exports to meet external demand. Over time, however, it is acknowledged that there may exist a potential for the diversion of local demand from the importing of goods and services that are produced externally, to the purchase of goods and services that can be produced locally. Therefore, in the context of a longer time horizon that allows for the adjustment and response of local producers, local demand assumes a more direct role in the process of local income and employment generation.

Gross Exports and Net Exports

In Figure 1, the flow of export earnings generated from exported goods and services represents "gross exports." Gross exports may be thought of as local production which is not consumed locally. For example, gross exports in the agriculture sector of a county in the Palouse (a fertile, hilly region in eastern Washington and northern Idaho) would include all the wheat produced, less that which is consumed locally.

However, the other external flow in Figure 1 shows import expenditure in exchange for imported goods and services. Agricultural imports in the same county in the Palouse would include wheat products for local consumption produced or processed elsewhere, such as flour, bread, and cereal. In contrast to gross exports, gross imports may be thought of as products imported for local consumption. Within each sector, then, the gross exports minus the gross imports equal net exports. In some sectors, net exports will be negative because gross imports in that sector exceed gross exports. The gross export, gross import, and net export concepts will be discussed again.

Investment Income and Transfer Payments

Two other flows of income into the local community are from transfer payments and investment income. These sources of earnings, whose growth and local importance are often overlooked, perform a function similar to the export of goods and services. Income from these two sources has grown from 21.1 percent of total personal income in the U.S. in 1962, to 33.3 percent in 1982. Transfer payments are primarily social security and other retirement-related income, unemployment insurance payments and expenditures for income maintenance programs. Transfer payments as a percentage of total personal income has almost doubled nationally from 7.7 percent in 1962 to 14.6 percent in 1982. Investment income in the form of earnings from dividends, interest, and rent has increased as a share of total personal income between 1962 and 1982 from 13.4 to 18.8 percent [U.S. Department of Commerce]. These flows are a major source of personal income in many rural communities, especially those with large numbers of retirees. The local employment generation potential of this major external source of local income should not be overlooked in local economic development planning.

Strategies for Economic Development

The economic base model identifies two fundamental ways to increase local income and employment: (1) increasing exports, and/or (2) decreasing the proportion of income leaking from the community. Export promotion is the traditional way of attempting to stimulate more economic activity. This focuses on enlarging the flow of income into the community. While attracting an export industry from the outside is a popular strategy, communities should not overlook the obvious alternative of expanding existing export firms. Furthermore, in times of economic decline, the strategy of retaining existing export employment to sustain the existing flow of dollars into the community should also be considered.

Local income and employment can also be increased by increasing the proportion of income spent on local purchases, thereby decreasing the leakage of income out of the community. This is done through import substitution—producing locally those goods and services that were previously imported. Thus, more money circulates locally, in turn generating local employment that was previously generated elsewhere. Import substitution can take place in both the export and import sectors. Inputs needed by the export sector, previously imported, could be produced locally, as could goods and services produced for local consumption. Local production of each decreases the leakage of income out of the community. The import substitution objective may be accomplished by the same three strategies introduced for export promotion; namely, expanding existing firms, attracting new firms, and retaining existing firms to prevent increased leakage of income.

Economic Base—A Simplified View

The economic base view of the relationship between the local economy and the rest of the world is sometimes criticized because it neglects other important factors affecting income and employment growth. Among these are changes in technology and labor productivity which make a region more competitive, and changes in public policy which also affect the perceived competitiveness of a region. Nonetheless, the economic base concept does serve as a valuable framework for exploring and assessing alternative economic development strategies within a local economy.

How Can Your Local Economic Base be Measured?

The economic base view of the world implies that employment and income-generating activities in a given economy can be separated into those activities serving the demand for exports and those serving local demand. Economists have devised four primary ways of separating the economy into export and local employment (or income). A direct method is to survey firms and ask them what percentage of their product is exported from the community. This, however, tends to be quite an expensive and time-consuming process. It is, therefore, much more common to use a nonsurvey method of estimating export employment or income, even though the accuracy is acknowledged to be less certain. Three major indirect, or nonsurvey, methods are: the assignment (or assumption) method, the minimum requirements method, and the location quotient method. The assignment method and the minimum requirement method provide two different estimates of gross exports, and the location quotient method provides an estimate of net exports. Although these methods can be used to estimate the economic base in terms of either employment or income, economic structure in this study was estimated using employment data. Thus the discussion in the remainder of the report is couched in terms of employment rather than income. Each method, shown in Table 1, has been employed to estimate the employment structure of county economies in Idaho, Oregon, and Washington, with results reported elsewhere. [10,11,12]

Table 1. Major Nonsurvey Methods of Estimating Export Employment.

Method	Export Concept	Basis for Estimating Export Employment	Critical Assumptions	Formula for estimating export employment X_{ij} for the ith industry and jth region.
Assignment	Gross	All employment in certain sectors is considered for "export"[a]	Usual assumption is that all production in "export" sectors is exported and all production of nonexport sectors is locally consumed.	$X_{ij}^{G} = E_{ij}$ If i = agriculture, forestry, mining, manufacturing, tourism or federal and state government.
Minimum Requirements	Gross	All employment in excess of the "minimum requirement" is export employment. The minimum requirement is the proportion of total regional employment in the ith industry found in the region with the lowest share of employment in i.[b]	(1) Equal productivity per employee in region and nation. (2) Consumption per employee of local production of industry i in each region is equal to that in the "minimum region." (3) Entire production of i in "minimum region" is for local consumption.	$X_{ij}^{G} = E_{ij} - \frac{E_{im} E_j}{E_m}$
Location Quotient	Net	All employment in excess of the national proportion is considered to be for export.	(1) Equal productivity per employee in region and nation. (2) Equal consumption of products of industry i per employee in region and nation. (3) Nation is neither importer nor exporter of i.	$X_{ij}^{N} = E_{ij} - \frac{E_{in}}{E_n} E_j$

Where: X_{ij} = estimate of export employment of ith industry in the jth region—Superscript G indicates gross exports; Superscript N indicates net exports.
E_{ij} = employment in ith industry in jth region.
E_{im} = employment in ith industry in a region with the "minimum" percentage employment in ith industry.
E_{in} = employment in ith industry in the nation.
E_j = total employment in the jth region.
E_m = total employment in region with the "minimum" percent employment in the ith industry.
E_n = total employment in the nation.

[a]Some analysists assign parts of industries to the export sector using professional judgment or survey data.
[b]Some analysts do not use the proportion in the region with the lowest share, but rather the proportion of the region at the lowest 5 or 10 percent of regions ranked by shares of employment in industry i.

BEST COPY AVAILABLE

Assignment Method

The simplest of all these methods is the assignment method, which assigns all employment in certain sectors to the export sector. Generally, agriculture, forestry, mining, manufacturing, tourism, federal and state government are included as export sectors for county economies. It is assumed that all production in these sectors is for export and all production in the remaining sectors is for local consumption. This assumption is clearly unrealistic. If information is available from other sources (such as an input-output model or a local survey) about the percentage of exports in certain sectors, that percentage of employment can be assigned to exports to obtain more realistic estimates.

Minimum Requirements Method

Both the minimum requirements and the location quotient methods are based on the notion that one can make a reasonably good estimate of employment for local consumption in any industry by comparing the region's share of employment in that industry with that of a selected reference region. For the minimum requirements method, the reference region for each industry sector is chosen so the resulting estimate is of gross exports. One practice is to rank all regions in the same size class by shares of employment in the particular sector—for example, manufacturing. If the lowest ranking region has a share of five percent in manufacturing, this method assumes that all regions in that size class require a manufacturing sector which employs five percent of the total regional employment to produce manufactured goods for local consumption, and that all manufacturing employment in excess of this five percent is engaged in production for export.

Analysts often establish different minimum requirements for counties of different size on the hypothesis that the minimum requirement is different for large economies and small economies. In this report and the companion reports, a standard minimum requirement was used for all size counties.

Other analysts recommend not using the percentage share of the minimum region, but rather the percentage share of another region slightly above the lowest percentage. Tiebout [13], for example, suggests using the percentage share of the region at the fifth percentile for each industry. In this report, and in companion reports, the percentage share of the county at the tenth percentile within each state is used as the "minimum requirement" for estimating local production for local consumption.

Location Quotient Method

The reference region for the location quotient method is generally the state or national economy. The national economy is used in this study. The location quotient is the ratio of the regional share of employment in a particular industry to the national share of employment in the same industry sector. The location quotient, then, is a measure of specialization. Regions which specialize in manufacturing, for example, have a larger share of employment in manufacturing than the nation, and consequently have a location quotient of greater than one in the manufacturing sector. Conversely, a location quotient less than one means that the regional share of employment in a given industry is less than the national share.

The location quotient technique uses the information about the national and regional shares to generate estimates of net export employment. All employment in excess of the national share of employment in any sector is considered to be an estimate of net export employment. Since the location quotient can be either one, greater than one, or less than one, net export employment figures can be either zero, positive, or negative. A positive net export employment estimate would indicate that the gross export employment of a region is greater than the gross import employment by the number of indicated employees. Gross export employment may be thought of as local employment producing goods and services that are not consumed locally. Similarly, gross import employment represents that employment outside the region which is involved in the production of goods and services imported for local consumption or further processing. Conversely, a negative net export employment estimate would indicate a situation of net imports, where gross import employment exceeds gross export employment in that sector.

Gross Exports vs. Net Exports/Imports

These three methods are often used to estimate the export base of an economy. It is clear, however, that the estimates should not be compared, because they provide two different kinds of information. Both kinds of information are useful and interesting for those concerned about regional development. Estimates of the gross export base are important in order for the analyst to understand the sectors that drive the economy. The net export/import estimates, on the other hand, are helpful for identifying both those sectors in which a region is relatively specialized and those in which the region depends on other regions for imports.

Gross export estimates can be used to answer the traditional questions: What is the export base of an economy? How dependent is the economy on particular sectors? These are questions asked by Chambers of Commerce, development groups, etc. In using gross exports to answer these questions, of course, one needs to recognize that gross exports are not the only things that drive an economy. There are internal changes in tastes and preferences for locally produced services, for example, which drive a local economy and are not export-related. At the same time, however, many believe that, in the short run, the most important driving force in the economy is the demand for exports.

The net export/import estimates yielded by the location quotient method can be used to answer the question: In which sectors of the economy is there demand which is not being met by local production? Estimates of net exports give an indication of where the region is specialized relative to the nation. Estimates of net imports may indicate the sectors in which there is some potential market which might be met through local production.

A Pacific Northwest County Economy: An Example

There are a number of dimensions in the economic structure of a region. This structure can be characterized, for example, according to its industrial structure, its occupational structure, or its income structure (the distribution of income between labor and proprietor income, property income, and transfer payments). Industrial structure can be desscribed in terms of either employment or income generated in each industry (sector). This section of the report will explore two dimensions of county industrial employment structure. The first is the industrial composition of the export base—the shares of total gross export employment contributed by various industrial sectors. The second is specialization and trade—the net export and import employment of the various sectors of the economy.

These two dimensions of the economic structure will be described for one rural county, Baker County, Oregon. (Table 2) Information on the gross export base and the net export/import structure for each of the counties in the Pacific Northwest is contained in three companion publications.

The Gross Export Base

Two methods are commonly used to estimate the gross export base of a region: the assignment method and the minimum requirements method. These were described in the first section of this report. A graphical comparison of export employment estimates using these two techniques is contained in Figure 2. While it is clear that the general pattern of the export base composition is similar under both techniques, there are differences. Export employment estimated via the assignment method (the left bar) produces a fairly stark profile in which there are six export sectors: agriculture, forestry, mining, other manufacturing, tourism, and government. All the employment in these sectors is assumed to be export employment. Export employment estimated via the minimum requirements technique (the center bar) shows a much more diversified export base structure. There is some export employment in every sector (except high technology manufacturing in which there is no employment at all in Baker County).

The minimum requirements method of estimating export employment provides a more reasonable representation of the gross export base. It should be cautioned, however, that neither the assignment approach nor the minimum requirements approach is likely to provide estimates of the gross export employment that are completely accurate.

For those sectors which the assignment method defines as export sectors,

Table 2. Employment Structure of Baker County, Oregon 1980

SIC Code	Industry	Total Employment	Gross Export (Assign.)	% Minimum Requirement	Gross Export (M.R.)	County % Employment	U.S. % Employment	Location Quotient	Net Export (L.Q.)
01,02,07, 09,20	Agriculture & Fishing	1226	1226	5	924	21	6	3.32	856
08,24,26	Forest & Related Products	381	381	1	296	7	1	4.66	299
19-14	Mining	104	104	0	104	2	1	1.73	44
15-17	Construction	114	0	1	35	2	4	.45	-138
28,35-38	High-Technology Manufacturing	0	0	0	0	0	8	.00	-485
22,23,25,27, 29-34,39	Other Manufacturing	194	194	1	138	3	9	.37	-326
41-49	Transportation, Communication, Public Utility	248	0	2	135	4	5	.83	-51
50,51	Wholesale Trade	211	0	1	145	4	5	.69	-97
56,70,79	Tourism	433	433	5	159	7	7	1.15	55
52-57,59	Other Retail Trade	639	0	7	238	11	11	1.05	30
60-67	Finance, Insurance, Real Estate	192	0	2	105	3	5	.62	-115
72-78,80-88	Other Services	743	0	5	449	13	18	.73	-277
	State & Federal Government	618	618	4	393	11	9	1.15	81
	Local Government	679	0	10	130	12	10	1.22	123
	Total	5782	2956		3134	100	100	1.00	0

Note: Percentages may not sum to 100 due to rounding error.

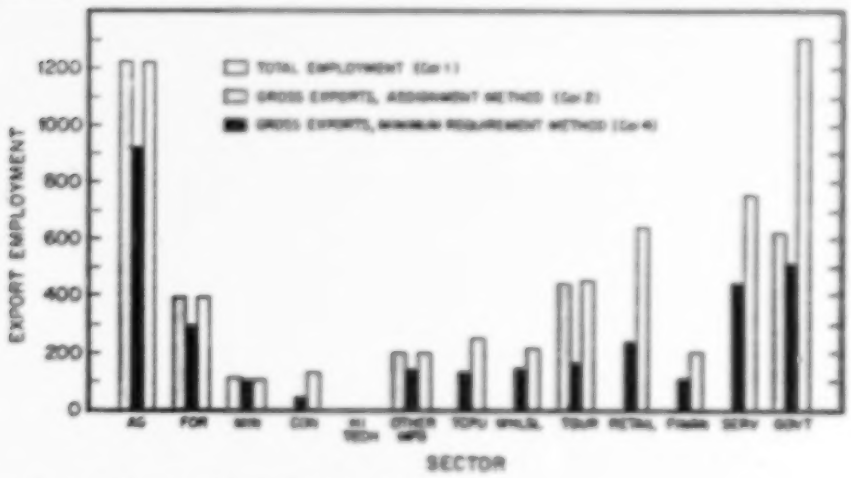


Figure 2. Export Employment: Baker County 1980

the actual gross export base is probably somewhere in between the gross export employment estimates of minimum requirements and the assignment methods. It is likely that some of the employment in all these sectors produces for local consumption, but the "local consumption" employment may not be as much as suggested by the minimum requirements approach. For example, in an agricultural state like Oregon, the "minimum requirement" in the agricultural sector may not be a good estimate of the amount produced for local consumption. A significant amount of the employment in agriculture may be for export, for example, even in the county with the lowest proportion of agricultural employment. The minimum requirements approach would in this case underestimate the true gross export employment. For the "export sectors" defined by the assignment method, therefore, the actual gross export employment will probably lie somewhere between the estimates from minimum requirements and those from the assignment methods.

For the "service-producing" sectors as defined by the assignment approach, the gross export employment estimates from the minimum requirements method provide an indicator of gross export employment in these sectors. There is a potential that some of what is defined as the minimum requirement, even in the service sectors, may be exported and thus this approach may again underestimate actual export employment. For the service-producing sectors as well as the export sectors, as defined by the assignment approach, the results of the minimum requirements method may be most fruitfully viewed as a minimum estimate and thus can serve as a conservative estimate of employment serving demand from outside the county or region.

One of the advantages of estimating export employment as the description of the dependence of the county economy on particular sectors (as opposed to merely using the total employment in each sector), may be apparent from Figure 2. The right bar indicates total employment in each sector of the county. If one looked merely at total employment in the county and attempted to understand the economic dependency, one would tend to overestimate the importance of certain service sectors, particularly government services and retail trade, and to underestimate the relative importance of the export sectors, particularly forestry and agriculture. For example, 21 percent of Baker County's total employment is in agriculture and fishing, and 7 percent is in forest and related products. These 2 sectors represent 29 and 9 percent, respectively, of the gross export base using the minimum requirements method. If "dependence" is defined in terms of the proportion of the export employment base in a given sector, the importance of agriculture and forestry is more accurately represented by an estimate of gross export shares than by the total employment shares. Conversely, while 22 percent of the employment in Baker County is in government sectors, the "dependence" of Baker County on government exports is quite a bit less (16 percent). While the differences between total employment shares and gross export shares are not overwhelming, the latter shares do more accurately reflect the dependence of an economy on specified sectors and give a much more balanced and accurate view of the sectors which drive the economy.

It should also be noted that export base information is occasionally used to estimate multipliers. These multipliers are used in forecasting and impact analysis. The derivation of economic base multipliers and the uses of multipliers in impact analysis and forecasting are described in references 3, 6, 7, 13. If gross export estimates are used for deriving economic base multipliers, rather than the net export employment estimates sometimes used, then one should use gross export estimates and changes in gross export employment in both impact analysis and forecasting. If one were interested, for example, in forecasting total employment in 1990 in Baker County, one would attempt to forecast gross export employment and to multiply that gross export employment forecast times a gross export multiplier. Gross export multipliers derived via economic base techniques are rather crude tools.

Specialization and the Export/Import Structure

While the gross export estimates described above provide indicators of economic dependence and may be useful in forecasting and multiplier analysis, estimates of trade flows which examine both imports and exports can provide perspective on current economic specialization and the local market potential in specific sectors. The net export/import profile for Baker County in 1980 is shown in Figure 3. This profile was derived

using the location quotient described in an earlier section. It shows, for example, that Baker County was quite specialized in agriculture relative to the nation. For agriculture, net export employment in the county was about 850 employees, when employment required from outside the county to produce imports for the agricultural sector is subtracted from the local employment producing agricultural exports. Similarly, the net export employment in the forestry, mining, tourism, retail, and government sectors was positive. This suggests that, under the assumptions outlined in Table 1, the county exported more in these sectors than it imported. The same Figure 3 shows that for seven other sectors, Baker County was a net importer; that is, the county imported more in these various sectors than it exported. The major importing occurred in the high technology manufacturing, other manufacturing, and service sectors.

It is sometimes speculated that these import estimates can give some indication of sectors with import substitution potential; i.e., sectors where local production could be profitably increased to supply local demand that is currently being met through imports. For example, since Baker County is a net importer of finance, insurance, real estate, and other services, there could be a potential for import substitution in these sectors; that is, it is possible that new businesses in the service sector might be profitably established to serve local markets. It is not at all clear, however, that the import estimate indicates potential for import substitution in all cases. It is quite likely, for example, that there is not a lot of potential for high technology manufacturing employment in Baker County. Although the county appears to be a substantial net importer of high technology and other manufactured goods, the production cost structure and accessible markets in these industries may preclude the development of a significant production capacity in Baker County in these sectors. Similarly, while the Baker County economy is a substantial net exporter in agriculture, forestry, tourism, and retail, local firms and households do purchase imports in these sectors and there may well be potential for important substitution in these sectors also. Thus, sectors with significant net imports may not necessarily have the potential for profitable production for local markets. They are, however, sectors in which market potential exists (in which local supply is not adequate to meet local demand). Identification of these sectors provides another place to start in understanding the industrial structure of the county and the potential for changes in that structure.

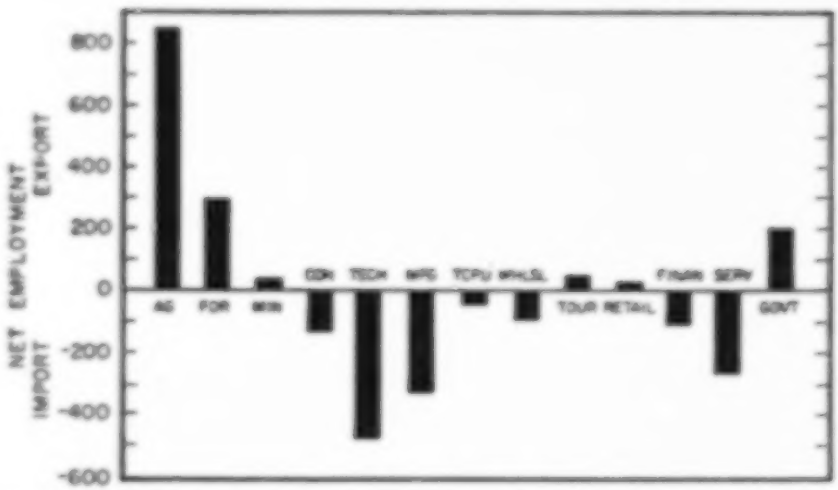


Figure 3. Net Export/Import Profile: Baker County 1980

How Can Information on Economic Structure be Used?

As suggested above, there are three basic uses of information on economic structure: 1) assessment of economic dependence for export promotion; 2) analysis of market potential for import substitution; and 3) forecasting and impact analysis. This report emphasizes the first two for exploring alternative economic development strategies.

Assessment of Economic Dependence for Export Promotion

The first and perhaps best use of economic base information (that is, information on gross exports) is for the assessment of economic dependence. In recent years, there has been some concern about the cyclical volatility of certain industries. Communities that are concerned about "excessive" dependence on these kind of industries can get a more accurate picture of economic dependence by using an economic base analysis than by looking at the employment shares in different industries. It should be pointed out that a narrow economic base, that is, specialization or concentration in one or two industries is not necessarily a bad thing for a community. Concentration in growing, stable, industries suggests a positive economic future. The assessment of economic dependence is merely a starting point for understanding the extent to which a community is dependent on one or two industries.

Market Potential Analysis for Import Substitution

Information on net exports and net imports may give some assessment of the local market potential in particular sectors. In the Baker County net export/import profile in Figure 3, it is clear that Baker County is currently importing more wholesale, transportation, communication and public utility, finance insurance, retail and other services than the "average" county. This relative lack of specialization in

these sectors implies that there may be a local market for services in these sectors. Similarly, the county is a net importer of high technology, other manufactured products, and construction. There is clearly a local market for these products which are not currently being produced locally.

It is also clear, however, that this information is not sufficient to suggest what the ability of production or service provision is in these sectors. The mere fact that there is a market demand for a product does not at all indicate that supply conditions exist for goods or service in a particular sector to be profitably produced in that location. Factors such as input availability and cost are much more important than local market potential in firm location decisions for some sectors. With this qualification in mind, however, the net export/import profile does suggest areas where markets may exist for import substitutions and could represent the first step in a market potential study.

Summary

Community decision makers selecting an economic development strategy most appropriate for their local community must begin with an understanding of how their local economy functions, what its economic base is, and how changes in that base may affect local economic structure and performance. The economic base approach emphasizes the roles of exports and imports in generating local income and employment.

Export promotion is a traditional strategy to stimulate more economic activity by enlarging the flow of income into the community. Import substitution is an economic development strategy alternative geared toward decreasing the leakage of income out of the community. Both the export promotion and import substitution objectives can be accomplished by attracting new firms as well as by retaining or expanding existing firms. Furthermore, the increasing importance of investment income and transfer payments as a major external source of earnings flowing into the community should not be overlooked in local economic development planning.

Three nonsurvey methods of separating the economy into export and local employment (or income) to measure the economic base were introduced. The assignment method and the minimum requirements method provide two different estimates of gross exports to determine which sectors drive the local economy. The location quotient method provides estimates of net exports that identify those sectors in which a local economy is relatively specialized and those in which the local economy depends on other regions for imports. These three methods were illustrated for one Pacific Northwest regional economy—Baker County, Oregon. Two dimensions of the county's economic structure were explored: the shares of total gross exports contributed by various industry sectors, and the net exports and imports of the various sectors of the county's economy.

Three companion publications, "The Employment Structure of Idaho [Oregon, Washington] Counties, 1980" provide comparable economic base analysis information for each of the counties in the Pacific Northwest. Information on the composition of the gross export base indicates each county's dependence on particular export sectors. Information on the net export/import structure (the composition of export specialization and trade) suggests sectors where import substitution potential may exist and provides a starting place for further study of market potential. This information on county economic structure has been provided to help people who are concerned about their local economy select more promising economic development strategies.

This publication was prepared by Bruce A. Weber, Extension economist, Oregon State University; Stephen M. Smith, associate professor, Department of Agricultural Economics, University of Idaho; Ronald C. Faas and Gary W. Smith, Extension economists, Washington State University, and is based on research from the project, "Economic Diversification and Structural Change in Rural Communities of the West," funded by the Western Rural Development Center.

The authors appreciate the very constructive comments of Thomas Johnson, Virginia Polytechnic Institute and State University; Lloyd Bender, Economic Research Service of Montana State University and two anonymous reviewers.

References:

1. Bendavid, Avrom. *Regional Economic Analysis for Practitioners*. New York: Praeger Publishers, Inc., 1972.
2. Braschler, Curtis, John A. Kuehn, and John Croll. *How to Compute, Evaluate, and Use the Community Economic Base*. DM 3005, Columbia: University of Missouri Extension, 1977.
3. Faas, Ronald C. *What Does the Impact Statement Say About Economic Impacts?* Corvallis: Western Rural Development Center, Oregon State University, April 1980.
4. Hoover, Edgar M. *An Introduction to Regional Economics*. New York: Random House Publishers, 1971.
5. Hustedde, Ron, Ron Shaffer, and Glen Pulver. *Community Economic Analysis—A How-To Manual*. Ames: North Central Regional Center for Rural Development, Iowa State University, 1984.
6. Lewis, Eugene et al. *Economic Multipliers: Can a Rural Community Use Them?* Corvallis: Western Rural Development Center, Oregon State University, October 1979.
7. Mandelbaum, Thomas B. et al. *Sectoral Output Multipliers for Rural Counties*. Corvallis: Oregon State University Extension Service, February 1984.
8. Richardson, Harry W. *Regional Economics*. Urbana: University of Illinois Press, 1979.
9. Smith, Gary W. et al. *Transfer Payments, the Aging Population, and the Changing Structure of the Oregon and Washington Economies*. Corvallis: Western Rural Development Center [forthcoming].
10. Smith, Stephen M. and Cosette Gibson. *The Employment Structure of Idaho Counties: 1980*. Corvallis: Western Rural Development Center [forthcoming].
11. Tackett, Ronald L. et al. *The Employment Structure of Washington Counties: 1980*. Corvallis: Western Rural Development Center [forthcoming].
12. Tay, Winnie K. and Bruce A. Weber. *The Employment Structure of Oregon Counties: 1980*. Corvallis: Western Rural Development Center [forthcoming].
13. Tiebout, Charles M. *The Community Economic Base Study* New York: Committee for Economic Development Supplementary Paper No. 16. December 1962.

Illustration from "Wheat Field," serigraph by Ben Shahn.

Copies of this publication may be obtained for $1.00 from the Extension Service at cooperating universities, or from the Western Rural Development Center, Oregon State University, Corvallis, Oregon 97331. Please write to WRDC for a list of other publications. WRDC programs are available equally to all people.

11

Western Rural Development Center
Oregon State University
Corvallis, OR 97331

FIRST CLASS

Non-Profit Org.
U.S. Postage
PAID
Corvallis, OR 97331
Permit No. 200

Betty Rose D. Rios, Associate Director
Clearinghouse on Rural Education and
Small Schools
Box 3AP
Las Cruces, NM 88003

Address Correction Requested

WRDC
Western Rural Development Center
Oregon State University
Corvallis, OR 97331
(503-754-3621)

A regional center for applied social science and community development cooperating with Land Grant Universities in Alaska, Arizona, California, Colorado, Guam, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming